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| EXAMINER |
|---|
| LEI, TSULEUN R |

| ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/627,320 | KIM, HONG JOO | |
| | Examiner | Art Unit | |
| | TSULEUN R. LEI | 2686 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on *02 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39, 42-70* is/are rejected.

7)☒ Claim(s) *40 and 41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-4, 7, 9-11, 15-16, 21, 26-36, 42-50, 52-67 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (U.S. Patent 5,335,368) in view of Monma et al. (U.S. Patent 6,211,830).

Regarding Claim 1, Tamura teach a device for matching the antenna impedance in a portable radio telephone having a folder casing (Fig.1) and a transmission/reception circuit (Fig.3, 11), comprising: a folder sensor (Figs.1& 2, Switching Element 13a) for sensing a folded state and an unfolded state of the folder casing, and a matching circuit for matching the antenna impedance (Fig.3, 12). Tamura does not teach the use of voltage control to control the matching circuit. Monma, however, teaches a controller for controlling the voltage applying to a matching circuit having a variable capacitance diode for matching the antenna impedance and an impedance of the transmission/reception circuit according to the voltage of the controller

(Monma, Fig.11, 109; Col.5, Lines 22-27). Since both Tamura and Monma are teaching the control of impedance matching of a antenna, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Monma into the teaching of Tamura, to prolong the life of the portable phone by replacing the mechanical switch with electronic means.

Regarding Claim 3, Tamura and Monma teach a device as claimed in claim 1, wherein the matching circuit includes: an inductor having a first end connected to the antenna and a second end connected to the transmission/reception circuit (Tamura, Fig.3, L1); a first capacitor having a first end connected to the second end of the inductor and the transmission /reception circuit (Tamura, Fig.3, C1), and a second end grounded, and a second capacitor and a variable capacitance diode connected in series between the antenna and ground, wherein a capacitance of the variable capacitance diode is varied according to the voltage of the controller (Monma, Fig.10, 142; It is inherently that a variable capacitor varies between a minimum value and a maximum value, and the minimum value can be seen as a fixed capacitor to be connected in series with a variable capacitor.).

Regarding Claim 4, Tamura and Monma teach a device as claimed in claim 1, wherein the matching circuit includes: an inductor having a first end connected to the antenna and a second end connected to the transmission/reception circuit; a first capacitor having a first end connected to the second end of the inductor and the transmission /reception circuit, and a second end grounded; a second capacitor having a first end connected to the antenna and the first end of

the inductor, and having a second end connected to ground; and a variable capacitance diode having a first end connected to the antenna and the first end of the inductor, and having a second end connected to ground, wherein a capacitance of the variable capacitance diode is varied according to the voltage of the controller (Tamura, Fig.3 and Monma, Fig.11).

Regarding Claim 7, Tamura and Monma teach a device for matching an antenna impedance in a portable radio telephone having a transmission/reception circuit, comprising: means for sensing whether the portable radio telephone is in transmit mode or receive mode and in response thereto providing a sensing signal; a controller for providing a control voltage in response to the sensing signal; and means for matching an impedance of the antenna and an impedance of the transmission/reception circuit according to the control voltage from the controller, wherein the impedance is matched based on whether the portable radio telephone is receiving as opposed to when it is transmitting. (Tamura, Fig.3, Transmitting and Receiving circuit. It is inherent that, since the transmit frequency and receive frequency are different and could differ by a significant amount, a transmitting and receiving circuit is designed with a sensing circuit to detect whether the wireless telephone is transmitting or receiving to maximize the efficiency of the antenna. It is also inherent that an internal sensing signal is generated for the control of transmitting/receiving impedance matching.).

Regarding Claim 9, see Claim 3 for the teaching of Tamura and Monma.

Regarding Claim 10, see Claim 4 for the teaching of Tamura and Monma.

Regarding Claim 11, Tamura and Monma teach a device for matching an antenna impedance in a portable radio telephone comprising a radio having a transmission/receiving circuit, a foldable casing enclosing the radio telephone, the foldable casing movable between an unfolded position and a folded position, and an antenna movable between an extracted position from the foldable casing and a retracted position into the foldable casing, the device comprising: means for sensing whether the foldable casing is in the unfolded position and for sensing whether the antenna is in the extracted position, and for providing a sensing signal in response thereto; and, means for matching an impedance of the antenna and an impedance of the transmission/receiving circuit in response to the sensing signal (Tamura, Fig.2 and Fig.3, and Monma, Figs. 3 & 4).

Regarding Claim 15, see Claim 3 for the teaching of Tamura and Monma.

Regarding Claim 16, see Claim 4 for the teaching of Tamura and Monma.

Regarding Claim 21, Tamura and Monma teach a portable radio terminal, comprising: a radio having transmitting and receiving circuits; a foldable casing enclosing said radio, said foldable casing movable between an open position and a folded position; an antenna movable between a retracted position retracted into said foldable casing and an extended position extended from said foldable casing; means for sensing whether said foldable casing is in the open position and for sensing whether said antenna is in the extended position, and for producing

at least one sensing signal in response thereto; and an impedance matching system for matching an impedance of said antenna and an impedance of said radio, said impedance matching system receiving the sensing signal and including an impedance matching circuit having a varactor (Monma, Fig.11, varactor 143), the varactor having a varactor voltage which is changed in response to the sensing signal for tuning the impedance matching circuit (Tamura, Figs.2 & 3, and Monma, Figs. 3, 4 and 11).

Regarding Claim 26, see Claim 3 for the teaching of Tamura and Monma.

Regarding Claim 27, see Claim 5 for the teaching of Tamura and Monma.

Regarding Claim 28, see Claim 5 for the teaching of Tamura and Monma.

Regarding Claim 29, see Claim 5 for the teaching of Tamura and Monma.

Regarding Claim 30, see Claim 4 for the teaching of Tamura and Monma.

Regarding Claim 31, Tamura and Monma teach the portable radio terminal of claim 1, wherein said sensing means includes a folder switch (Tamura, Fig.2).

Regarding Claim 32, see Claim 11 for the teaching of Tamura and Monma.

Regarding Claim 33, see Claim 5 for the teaching of Tamura and Monma.

Regarding Claim 34, see Claim 5 for the teaching of Tamura and Monma.

Regarding Claim 35, see Claim 3 for the teaching of Tamura and Monma.

Regarding Claim 36, see Claim 4 for the teaching of Tamura and Monma.

Regarding Claims 42, 43, 50, 56, 58, 59 and 64, see Claim 7 for the teaching of Tamura and Monma.

Regarding Claim 44, Tamura and Monma teach the device as claimed in claim 43, wherein the transmit impedance is matched for a first frequency and the receive impedance is matched for a second frequency (Tamura, Fig.3, 11; It is inherent that in cellular telephone transmit and receive frequencies are two different frequencies.).

Regarding Claims 45, 48, 52, 54, 56, 60, 62, 64 and 67, see Claims 1, 7 and 11 for the teaching of Tamura and Monma.

Regarding Claims 46, 49, 53, 55, 57, 61, 63, 65 and 70, see Claim 44 for the teaching of Tamura and Monma.

Regarding Claims 47 and 66, see Claim 11 for the teaching of Tamura and Monma.

Regarding Claim 50, see Claim 7 for the teaching of Tamura and Monma.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura in view of Toba (U.S. Patent 6,438,392).

In Claim 2, Tamura teaches a device as claimed in claim 1, wherein the folder casing includes an upper casing and a lower casing with a mechanical sensor switch. Tamura fails to teach the use of magnetic switch. Toba, however, teaches that the folder sensor includes: a magnet fitted to a position of an upper casing of the portable radio telephone; and a magnetic sensor fitted to a lower casing of the portable radio telephone (Toba, Fig.1, the magnet 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Toba into the teaching of Tamura, to prolong the life of the portable phone by replacing the mechanical switch with a magnetic switch.

4. Claims 5, 8, 12-14, 17-20, 22-25, 37-39, 51 and 68-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura in view of Tanaka et al. (U.S. Patent 6,219,532) and further in view of Okabe et al. (U.S. Patent 6,198,441).

Regarding Claim 5, Tamura teaches a device as claimed in claim 1, but fails to teach the use of memory and CPU as well as DAC to perform the control functions. Tanaka, however,

teaches a controller circuit wherein the controller includes: a memory for storing data for an optimal antenna impedance matching for the folded state and the opened state of the folder casing (Tanaka, Fig.1, Memory device 11). Okabe further teaches a central processing unit (CPU) for reading the data from the memory according to a signal from the folder sensor, and a digital-to-analog converter (DAC) for converting the data from the CPU into an analog voltage and providing the analog voltage to the matching circuit (Okabe, Fig.8, CPU 51 and D/A converter 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Tanaka and the teaching of Okabe into the teaching of Tamura, to prolong the life of the portable phone by replacing the mechanical switch with electronic means.

Regarding Claim 8, Tamura as modified by Tanaka and Okabe teaches a device as claimed in claim 7, wherein the controller includes: a central processing unit (CPU) for receiving the sensing signal and providing a digital voltage corresponding to the sensing signal, wherein the sensing signal indicates whether the portable radio telephone is in transmit mode or receive made; and a digital/analog converter for receiving the digital voltage and converting the digital voltage into the control voltage and providing the control voltage to the means for matching the impedances (Okabe, Fig.8, wherein the CPU receives the 1$^{st}$ control signal from the frequency synthesizer which generates different frequencies for transmit or receive mode, and inherently sends a signal to the CPU to indicate the mode.).

Regarding Claim 12, Tamura as modified by Tanaka and Okabe teaches a device as claimed in claim 11, wherein the means for matching impedances includes: a controller for receiving the sensing signal indicating whether the foldable casing is in the folded or unfolded position, wherein the controller provides a digital voltage corresponding to the sensing signal; a digital-to-analog converter for converting the digital voltage into an analog voltage, and a matching circuit for matching an impedance of the antenna and an impedance of the transmission/receiving circuit in response to the analog voltage (Okabe, Fig.8, D/A Converter 54).

Regarding Claim 13, Tamura as modified by Tanaka and Okabe teaches a device as claimed in claim 12, wherein the controller includes a memory for storing a digital value representing a voltage value for matching the impedances (Tanaka, Fig.1).

Regarding Claim 14, Tamura as modified by Tanaka and Okabe teaches a device as claimed in claim 12, wherein the controller stores voltage values for matching the impedances, corresponding to cases wherein: the antenna is extracted and the foldable casing is unfolded; the antenna is extracted and the foldable casing is folded; the antenna is retracted and the foldable casing is unfolded; and the antenna is retracted and the foldable casing is folded; and for selecting one of said voltage values in response to the sensing signal (Okabe, Fig.8).

Regarding Claim 17, Tamura as modified by Tanaka and Okabe teaches a device for matching an antenna impedance in a portable radio telephone including a radio having

transmission and receiving circuits, a foldable casing enclosing the radio, the foldable casing movable between an unfolded position and a folded position, and an antenna movable between an extracted position from the foldable casing and a retracted position into the foldable casing, the device comprising; means for sensing whether the foldable casing is in the unfolded position, and for sensing whether the antenna is in the extracted position, and for providing a sensing signal in response thereto; a measurement device for providing a RF signal to the antenna, and for measuring an RF signal from the antenna; a controller for controlling the measurement device to provide the RF signal to the antenna in a reception mode, and to measure the RF signal from the antenna in a transmission mode, and for determining optimal antenna impedance matching values for transmitting and receiving, respectively as well as for the folder casing and antenna positions, and for storing the optimal impedance matching values; and means for adjusting an impedance match between the antenna and the radio in response to the sensing signal under the control of the controller for each folder casing position, antenna position, and transmission and reception mode to vary an antenna impedance matching, the controller measuring a transmission level in the transmission mode and a reception sensitivity in the reception mode every time the antenna impedance matching is varied, to determine optimal antenna impedance matching values for each folder casing position, antenna position, and transmission and reception mode, and to store the optimal antenna impedance matching values therein (Tanaka, Col.2, Lines 27-33; Tamura, Figs.1 & 2; Monma, Figs.3 & 4; Also, see Claims 1, 7 and 11.).

Regarding Claim 18, Tamura as modified by Tanaka and Okabe teaches a device as claimed in claim 17, wherein the means for adjusting the impedance match includes: a central

processing unit (CPU) adjusting a voltage by a fixed increment from OV to a fixed voltage level in response to the sensing signal under the control of the controller for each folder casing position, antenna impedance position, and transmission and reception mode to vary an antenna impedance matching, and for causing the controller to measure the transmission level in the transmission mode and the reception sensitivity in the reception mode every time the antenna impedance matching is varied, and for providing a control signal for storing the optimal antenna impedance matching values; a memory for storing the optimal antenna impedance matching values under the control of the CPU; a digital-to-analog converter for converting the voltage provided by the CPU into an analog voltage; and a matching circuit for matching the impedance of the antenna and an impedance of the radio in response to the analog voltage (Okabe, Fig.8).

Regarding Claim 19, see Claim 3 for the teaching of Tamura and Monma.

Regarding Claim 20, see Claim 4 for the teaching of Tamura and Monma

Regarding Claim 22, Tamura as modified by Tanaka and Okabe teaches the portable radio terminal of claim 1, wherein said impedance matching system further comprises: a processor which receives the sensing signal and outputs a digital control signal in response to whether the foldable casing is in the open position and whether the antenna is in the extended position; and a digital to analog converter which receives the digital control signal and provides a varactor tuning voltage in response thereto (Okabe, Fig.8).

Regarding Claim 23, Tamura as modified by Tanaka and Okabe teaches the portable radio terminal of claim 2, wherein said processor comprises a memory which stores a predetermined digital value representing a varactor voltage value for matching said impedances, wherein said processor reads said digital value and outputs the digital control signal corresponding to the sensing signal (Okabe, Fig.8).

Regarding Claim 24, Tamura as modified by Tanaka and Okabe teaches the portable radio terminal of claim 2, wherein said processor comprises a memory comprising a plurality of memory locations, each location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances, wherein said processor reads one of said digital values in response to the sensing signal and outputs the digital control signal corresponding to the sensing signal (Okabe, Fig.8; Tanaka, Fig.1).

Regarding Claim 25, Tamura as modified by Tanaka and Okabe teaches the portable radio terminal of claim 24, wherein said memory includes eight memory locations comprising: a first memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is extended, the foldable casing is open, and the portable radio terminal is receiving; a second memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is extended, the foldable casing is open, and the portable radio terminal is transmitting; a third memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the

antenna is extended; the foldable casing is closed, and the portable radio terminal is receiving; a fourth memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is extended, the foldable casing is closed, and the portable radio terminal is transmitting; a fifth memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is retracted, the foldable casing is open, and the portable radio terminal is receiving; a sixth memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is retracted, the foldable casing is open, and the portable radio terminal is transmitting; a seventh memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is retracted, the foldable casing is closed, and the portable radio terminal is receiving; and an eighth memory location storing a corresponding predetermined digital value representing a varactor voltage value for matching said impedances when the antenna is retracted, the foldable casing is closed, and the portable radio terminal is transmitting (Tanaka. Col.2, Line 49. It is inherent that a memory device would store all possible states of operation, and in this case it is 8 states, or 8 memory locations.).

Regarding Claim 37, Tamura as modified by Tanaka and Okabe teaches a method of producing a portable radio terminal which includes: a radio having transmitting and receiving circuits; a foldable casing enclosing said radio, said foldable casing movable between an open position and a folded position; an antenna movable between a retracted position into said foldable casing and an extended position extended from said foldable casing; means for sensing

whether said foldable casing is in the open position and for sensing whether the antenna is in the extended position, and for providing at least one sensing signal in response thereto; and an impedance matching system for matching an impedance of said antenna and an impedance of said radio, said method comprising: sensing whether said foldable casing is in the open position, whether the antenna is in the extended position, and whether the portable radio terminal is transmitting or receiving; determining an optimum varactor voltage value to match the impedances based on the position of the casing, the position of the antenna, and whether the portable radio terminal is transmitting or receiving; and storing a digital value representing said optimum varactor voltage value in a memory location in said impedance matching system (Tamura, Fig.2; Monma Fig.3 and Fig.4; Tanaka, Fig.1; and Okabe, Fig.8).

Regarding Claim 38, Tamura as modified by Tanaka and Okabe teaches the method of claim 37, wherein said determining and storing steps are performed when the portable radio terminal is in the states comprising: the antenna is extended, the foldable casing is open, and the portable radio terminal is receiving; the antenna is extended, the foldable casing is open, and the portable radio terminal is transmitting; the antenna is extended, the foldable casing is closed, and the portable radio terminal is receiving; the antenna is extended, the foldable casing is closed, and the portable radio terminal is transmitting; the antenna is retracted, the foldable casing is open, and the portable radio terminal is receiving; the antenna is retracted, the foldable casing is open, and the portable radio terminal is transmitting; the antenna is retracted, the foldable casing is closed, and the portable radio terminal is receiving; and the antenna is retracted, the foldable

casing is closed, and the portable radio terminal is transmitting (Tamura, Fig.2; Monma Fig.3 and Fig.4; Tanaka, Fig.1; and Okabe, Fig.8).

Regarding Claim 39, Tamura as modified by Tanaka and Okabe teaches the device as claimed in claim 18, wherein the controller and the CPU communicate by use of a Universal Asynchronous Receiver/Transmitter (UART) (Okabe, Fig.8, CPT. It is inherent that a CPU has a UART interface or a built-in UART function, since UART is just a communication interface to connect between a CPU and external components.).

Regarding Claim 51, see Claim 8 for the teaching of Tamura, Monma, Tanaka, and Okabe.

Regarding Claims 68 and 69, see Claim 25 for the teaching of Tamura, Monma, Tanaka, and Okabe.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura in view of Monma and further in view of Gureshnik et al. (U.S. Patent 6,459,398).

In Claim 6, Tamura as modified by Monma teaches a device as claimed in claim 5, wherein a DAC is used to perform the control function. Tamura and Monma fail to disclose how the DAC is operated. Gureshnik, however, teaches that the DAC includes: a variable pulse generator for receiving a control signal and a data signal, which is based on the open state and the folded state of the folder casing, from the CPU and in response to the control signal varying

one selected from the group consisting of pulse widths and pulse densities; and an integrating circuit for integrating pulses received from the variable pulse generator and providing an integrated output signal to the matching circuit (Gureshnik, Fig.1, and Fig.4).

***Allowable Subject Matter***

6. Claims 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Amendment***

7. The amendment filed on 5/2/03 under 37 CFR 1.131 has been considered but is ineffective to overcome the references recited in the Office Action.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TSULEUN R. LEI whose telephone number is 703-305-4828. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D Banks-Harold can be reached on 703-305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5403 for regular communications and 703-308-5403 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

TRL
July 23, 2003

Marsha D Banks-Harold
MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
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